

# Metering Pump Series GM/GB

## Main Technical Characteristics

- Flowrate up to 1800L/H
- Pressure up to 12 bar
- Suction lift: up to 2.5 m water
- Maximum suction pressure: 2 bar
- Accuracy:  $\pm 1$  % of rated flow from 10% to 100% stroke
- Maximum temperature of pumped liquid: 50°C

## Features & Benefits

### Liquid End

- Mechanical actuated diaphragm design
- Eliminate contour plates, easy for material pass
- PVC, PVDF & 316SS liquid end material
- High viscosity, slurry application
- Self-cleaning suction/discharge check valve

### Drive End

- Variable eccentric drive mechanism for smooth sinusoidal flow
- Rugged construction designed to withstand tough environments
- Hard-wearing ball bearings to make pump work more stably
- Oil bath lubrication for all of drive components
- Lockable micrometer stroke, adjustment can be adjusted while pump is running or stopped



## Automatic Capacity Control Options

**Electrical capacity controller: Accept external control signal to adjust the stroke length**

- Power supply: 220V-50Hz, single phase
- Input signal: 4-20mA analog signal
- Output signal: 4-20mA/1-5V analog signal for record display and control system

**Varipulse® controller: ON/OFF control the three phase motor to adjust the flowrate**

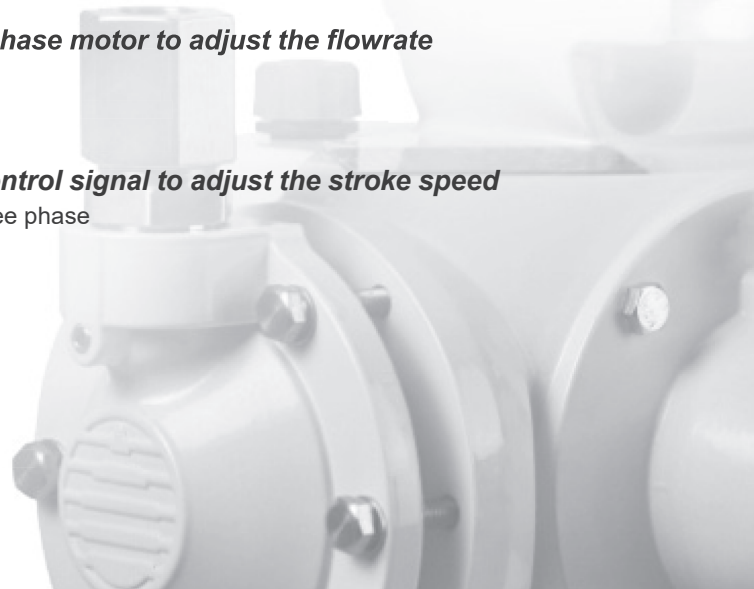
- Power supply: 200-240V/50/60Hz, single phase
- Input signal: 4-20mA analog signal / pulse signal / manual

**Variable frequency controller: Accept external control signal to adjust the stroke speed**

- Power supply: 220V-50Hz, single phase / 380V-50Hz, three phase
- Input signal: 4-20mA analog signal

## Applications

Municipal, industrial water and wastewater, swimming pools and other water treatment process



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## Options

- Double diaphragm
- Double diaphragm with pressure gauge & switch
- Stroke counter transducer  
PNP output / NPN output / relay output



GM with E-STROKE  
electrical capacity  
controller

## Material of liquid end

GM0002~GM0050

Liquid end	Head	Valve body	Valve seat	Ball	Diaphragm	Seal	Connectors
PVC	PVC	PVDF	AFLAS	Ceramic	PTFE	Viton	PVC
PVDF	PVDF	PVDF	PVDF	Ceramic	PTFE	PTFE	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

GM0090~GM0500

Liquid end	Head	Valve body	Valve seat	Ball	Diaphragm	Seal	Connectors
PVC	PVC	PVC	PE	Glass	PTFE	Viton	PVC
PVDF	PVDF	PVDF	PVDF	Ceramic	PTFE	PTFE	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

GB0080~GB1500

Liquid end	Head	Valve body	Valve seat	Ball	Diaphragm	Seal	Connectors
PVC	PVC	PVC	PVC	Ceramic	PTFE	Viton	PVC
PVDF	PVDF	PVDF	PVDF	Ceramic	PTFE	PTFE	PVDF
316SS	316SS	316SS	316SS	316SS	PTFE	Viton	316SS

GB1800

Liquid end	Head	Valve body	Valve plate	Spring	Diaphragm	Seal	Connectors
PVC	PVC	PVC	PVC	NS333; Hastelloy C	PTFE	Viton	PVC
PVDF	PVDF	PVDF	PVDF	NS333; Hastelloy C	PTFE	PTFE	PVDF
316SS	316SS	316SS	316SS	NS333; Hastelloy C	PTFE	Viton	316SS

## Accessories

- System accessories: filter, calibration column, pulsation dampener, safety valve and back pressure valve
- Safety valve is the necessary option.
- GM002~GM0050 PVC/PVDF liquid end, pumps supplied with injection nozzle, foot valve, 6m hose, except for viscosity liquid end

## Standard motor characteristics

- Power supply: 380V-50Hz, three phase/220V-50Hz, single phase
- Enclosure of protection: IP55
- Insulation: class F
- Other motor options: Explosion proof motor, 60Hz motor
- All motors comply with the International Electrotechnical Association IEC standard or the National Electrical Commission NEC standards

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## G Series Product Code Selection

Code      Series      Capacity      Liquid end      Connection      Motor      Control      Base plate      Option

### Series

Code	Description
GM	GM Series MAD Metering Pump

Code	Description
GB	GB Series MAD Metering Pump

### Capacity

Code	LPH@P <sub>max</sub>	SPM	P <sub>max</sub> (bar)	Motor Power
GM0002	2.25	36	12	0.25kW <sup>(1)</sup>
GM0005	4.5	72		
GM0010	9	144		
GM0025	25	72		
GM0050	50	144	10	
GM0090	85	72	7	
GM0120	115	72		
GM0170	170	144		
GM0240	235	144		
GM0330	315	144	5	0.25kW
GM0400	400	144		0.37kW <sup>(1)</sup>
GM0500	500	180		

Code	LPH@P <sub>max</sub>	SPM	P <sub>max</sub> (bar)	Motor Power
GB0080	82	36	10	0.55kW
GB0180	167	72		
GB0250	237	102		
GB0350	334	144		
GB0450	416	180	7	
GB0500	464	144		
GB0600	583	180		
GB0700	656	102		
GB1000	946	144	3.5	0.75kW <sup>(1)</sup>
GB1200	1200	180		
GB1500	1500	180		
GB1800	1800	206	3	

1. The power could match both constant & variable speed application, but 5-50Hz variable speed motor is not included as default configuration.  
2. Do not use with 60Hz motors.

### Liquid End

Code	Description
P	PVC Liquid End
S	316 Liquid End
T	PVDF Liquid End
F	PVC Liquid End(Used for sodium hypochlorite)
B	PP liquid end(Used for GM only)

Code	Description
V	High Viscosity (Used for PVC LE )
K	Slurry(GM2#/3#/4#: 316SS LE; GB: PVC LE)
M	Mix(GM:PVC LE)
Z	Special material liquid end.(Consult with factory)

### Connection

Code	Description	GM0002-0050				GM0090-0500				GB0080-0450				GB0500-0600				GB0700-1200				GB1500-1800			
		PVC	PVDF	PP	316	PVC	PVDF	PP	316	PVC	PVDF	316	PVC	PVDF	316	PVC	PVDF	316	PVC	PVDF	316				
	Suction(S)/Discharge(D)	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S/D	S	D	S	D	S	D	S	D	S/D	S/D	S/D
P	NPT	-----	-----	1/4" M	1/2" F	1/2" F	1/2" F	1/2" F	1/2" F	1/2" F	1/2" F	1/2" F	1/2" F	1" F	1" F	1" M	1-1/2" F	1" F	1-1/2" F	1" F	1-1/2" M	1" M	1-1/2" F	1-1/2" F	1-1/2" M
Q	Pipe	DN15	-----	-----	-----	DN15	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
R	Hose pipe 6X12	6x12	6x12 <sup>(2)</sup>	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
L <sup>(1)</sup>	PE pipe	3/8"x1/2"	3/8"x1/2" <sup>(2)</sup>	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
H	GM pipe High viscosity application	15x23 9x12	-----	-----	-----	DN15	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
X	Others	Consult with factory, and describe the requirements in purchase order																							

Note: Standard configuration is bold letter marked in shadow. For V/K/M liquid end, connection depend on material LE.

(\*) The standard material of hose pipe is PVC for code R, consult factory for PVDF pipe if required.

(1) The Max.work pressure for PE pipe is 10 bar.

(2) The standard material of pipe is PE for code L, consult factory for PVDF pipe if required.

### Motor

Code	Description(GM)	Description(GB)
A	250W, IEC71,4P,3-50-220/380V,IP55/F/TEFC	550W, IEC71,4P,3-50-220/380V,IP55/F/TEFC
2	Without motor, but NEMA56C connection and standard test	Without motor, but NEMA56C connection and standard test
C	250W, IEC71,4P,3-50-380V,IP55/F/TEFC,ExdII BT4	550W, IEC80,4P,3-50-220/380V,IP55/F/TEFC,ExdII BT4
D	370W, IEC71,4P,3-50-220/380V,IP55/F/TEFC	750W, IEC80,4P,3-50-220/380V,IP55/F/TEFC
E	250W, IEC71,4P,1-50-220V,IP55/F/TEFC	750W, IEC80,4P,3-50-220/380V,IP55/F/TEFC,ExdII BT4
F	250W, IEC71,4P,3-50-200/400V,3-60-230/460V,IP55/F/TEFC	550W, IEC71,4P,3-50-200/400V,3-60-230/460V,IP55/F/TEFC
G	370W, IEC71,4P,3-50-200/400V,3-60-230/460V,IP55/F/TEFC	750W, IEC80,4P,3-50-200/400V,3-60-230/460V,IP55/F/TEFC
H	-----	550W, IEC80,4P,3-50-220/380V,IP55/F/TEFC
9(5)	Without motor, but with IEC71 connection and standard test	Without motor, but with IEC71 connection and standard test
9(8)	-----	Without motor, but with IEC80 connection and standard test
9	Others, Consult with Factory	Others, Consult with Factory

Note: Single phase motor can't be used with Varipulse<sup>®</sup> controller.

### Capacity Control

Code	Description(GM)	Description(GB)	Remark
M	Manual Adjustment	Manual Adjustment	Standard Configuration
N	MRIS E-STROKE, E-STROKE, 4-20mA, 220VAC-1Ph	MRIS E-STROKE, E-STROKE, 4-20mA, 220VAC-1Ph	-----
C	MRIS E-STROKE, 4-20mA, 220VAC-1Ph(customized color)	MRIS E-STROKE, 4-20mA, 220VAC-1Ph(customized color)	-----
A	MRIS E-STROKE, E-STROKE, 4-20mA, 115VAC-1Ph	MRIS E-STROKE, E-STROKE, 4-20mA, 115VAC-1Ph	-----
D	MRIS E-STROKE, 4-20mA, 115VAC-1Ph(customized color)	MRIS E-STROKE, 4-20mA, 115VAC-1Ph(customized color)	-----
V	MRIS MCC 0.75KW-380V-50Hz-3Ph	MRIS MCC 0.75KW-380V-50Hz-3Ph	-----
U	MRE STEGMANN, 4-20mA, 220VAC-1Ph	MRA ECC, 4-20mA, 220VAC-1P	-----
G	MRE STEGMANN, 4-20mA, 115VAC-1Ph	MRA ECC, 4-20mA, 115VAC-1Ph	-----
W	-----	ACC, Waterproof ; 24VDC ; 110V-230V 1 phase 50/60Hz	Used for GB
I	-----	ACC, Waterproof ; 24VDC ; 110V-230V1 phase 50/60Hz(customized color)	Used for GB
X	-----	ACC Ex-proof ; 24VDC ; 110V-230V 1 phase 50/60Hz	Used for GB
J	-----	ACC Ex - proof ; 24VDC ; 110V - 230V 1 phase 50/60Hz(customized color)	Used for GB
T	Varipulse <sup>®</sup> Controller and E-STROKE ECC	-----	Used for GM
P	Varipulse <sup>®</sup> Controller (220VAC-1Ph-50Hz)	-----	Used for GM

### Base Plate

Code	Description	Remark
N	N/A	Standard Configuration
1	N/A-Pump with customized color	-----
Y	YES <sup>(2)</sup>	-----
9	YES-Pump with customized color <sup>(2)</sup>	-----

### Option

Code	Description	Remark
N	N/A	-----
A	Stroke Counter transducer	-----
B	Double Diaphragm With Pressure Gauge	-----
C	Double Diaphragm With Pressure Switch (With Baseplate)(*)	With base plate
D	Double Diaphragm With Pressure Gauge & Switch(With baseplate)(*)	With base plate
X	Others, Consult with factory.	Describe the requirements in purchase order

(2). Code C or D has included base plate in the structure, please choose code "N" for the Base Plate in such a application.

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## G Series Drawing

**GB**

Dimension	LE Material	Connection				B	C	D
		N1	A1	N2	A2			
GB0080~GB0450	Plastic	1/2" NPTF	125	1/2" NPTF	125	2	63	333
	Metallic	1/2" NPTF	130	1/2" NPTF	130	8	63	333
GB0500~GB0600	Plastic	1" NPTF	144	1" NPTF	144	21	72	351
	Metallic	1" NPTM	181	1" NPTM	181	58	76	360
GB0700~GB1200	Plastic	1"-1/2 NPTF	188	1" NPTF	182	65	94	370
	Metallic	1"-1/2 NPTM	200	1" NPTM	188	77	98	383
GB1500	Plastic	1"-1/2 NPTF	188	1"-1/2 NPTF	188	65	94	370
	Metallic	1"-1/2 NPTM	200	1"-1/2 NPTM	200	77	98	383
GB1800	Plastic	1"-1/2 NPTF	211	1"-1/2 NPTF	211	88	94	370
	Metallic	1"-1/2 NPTM	205	1"-1/2 NPTM	205	82	98	383

**GM**

Dimension	LE Material	Connection				B	C	D
		N1	A1	N2	A2			
GM0002~GM0010	Plastic	6x12	108	6x12	108	9.5	104	250
		DN15	90	DN15	90	-8.5	104	250
		1/4" NPTM	72	1/4" NPTM	72	-26.5	104	250
GM0025~GM0050	Metallic	1/2" NPTF	102	1/2" NPTF	102	3.5	104	250
		6x12	108	6x12	108	9.5	104	250
		DN15	90	DN15	90	-8.5	104	250
GM0090~GM0500	Plastic	1/4" NPTM	72	1/4" NPTM	72	-26.5	104	250
		1/2" NPTF	102	1/2" NPTF	102	3.5	104	250
		1/2" NPTF	127	1/2" NPTF	127	28.5	148	320
	Metallic	DN15	127	DN15	127	28.5	148	320
		1/2" NPTF	131	1/2" NPTF	131	32.5	148	315

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